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1933 7590 01/28/2009

FRISHAUF, HOLTZ, GOODMAN & CHICK, PC
220 Fifth Avenue
16TH Floor
NEW YORK, NY 10001-7708

EXAMINER

CUTLER, ALBERT H

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 01/28/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/807,479

03/23/2004

Takao Tsuruoka

01064D/LH

3058

TITLE OF INVENTION: IMAGE PROCESSING APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/28/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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1933 7590 01/28/2009

FRISHAUF, HOLTZ, GOODMAN & CHICK, PC
220 Fifth Avenue
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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,479	03/23/2004	Takao Tsuruoka	01064D/LH	3058

TITLE OF INVENTION: IMAGE PROCESSING APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/28/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
CUTLER, ALBERT H	2622	382-169000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date _____

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/807,479	03/23/2004	Takao Tsuruoka	01064D/LH	3058
1933	7590	01/28/2009	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 220 Fifth Avenue 16TH Floor NEW YORK, NY 10001-7708			CUTLER, ALBERT H	
			ART UNIT	PAPER NUMBER
			2622	
DATE MAILED: 01/28/2009				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 675 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 675 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/807,479

Applicant(s)

TSURUOKA ET AL.

Examiner

ALBERT H. CUTLER

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 7 November 2008.
2. ☒ The allowed claim(s) is/are 1-3 and 5-7.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/785,931.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. This office action is responsive to communication filed on November 7, 2008.

Information Disclosure Statement

2. The Information Disclosure Statement (I.D.S.) filed September 25, 2008 was received and has been considered by the Examiner.

Allowable Subject Matter

3. Claims 1-3 and 5-7 are allowed.
4. The following is an examiner's statement of reasons for allowance:
Consider claim 1, the closest prior art, Fukushima et al. (US 5,715,377) teaches:
An image processing apparatus(see figures 1 and 17) for adjusting a gradation range(see figure 11) of an input image(101, figure 1), comprising:
photographing condition estimation means(103, 104, 105, and 106) for estimating a photographing condition of the input image(See column 12, line 53 through column 13, line 17. The photographing condition estimating means estimates if the input image was taken with back lighting and also estimates the people presence in the image.);
selection means(64A) for selecting a gradation table on the basis of the photographing condition(column 12, lines 12-50);
characteristic amount calculation means(106) for calculating a characteristic amount with respect to the input image(The characteristic amount calculating

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means(106) calculates a characteristic amount of reliability with respect to the input image, column 13, lines 8-17, column 23, lines 10-30.);

gradation conversion curve calculation means for calculating a gradation conversion curve on the basis of the gradation table(column 24, line 14 through column 25, line 30, especially column 25, lines 21-23. The original gradation table is modified based on a degree(i.e. a weighting) to generate a gradation correction table suited to the input image. See figure figures 14A and 14B.); and

conversion means(6, figure 17) for performing gradation conversion using the gradation conversion curve(column 24, lines 26-48) so as to perform gradation correction on the input image(101) to adjust the gradation range to a predetermined gradation range(See column 13, lines 14-17, column 23, line 10 through column 25, line 30, figures 16A-16E. The gradation correction means generates a gradation correction curve to correct an input image based on the degree of backlighting, the degree of people in the image, and the degree of reliability.).

However, Fukushima et al. do not explicitly teach that the selection means selects an arrangement of weight coefficients in correspondence with pixel positions in the input image, a histogram generation means for generating a weighting histogram related to the characteristic amount based on the arrangement of the weight coefficients in correspondence with the pixel positions in the input image, or that the gradation curve is calculated based upon the histogram.

Kuwata et al. (US 2002/0025079) are similar to Fukushima in that Kuwata et al. teach of an image processing apparatus(paragraph 0002) that performs gradation

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correction(paragraphs 0333-0362) on an input image(paragraphs 0336-0337). Kuwata et al. are further similar in that a photographing condition such as whether the image is a portrait or a landscape image is taken into account when performing the gradation correction(see SD180-SD196, figure 45, figure 46, paragraph 0342).

However, in addition to the teachings of Fukushima, Kuwata et al. teach that a selection means selects an arrangement of weight coefficients in correspondence with pixel positions in the input image(See formula (68), paragraph 0351, figure 47.

Basically, a uniform sampling histogram and an edge sampled histogram are combined to create a weighted histogram. This is detailed in paragraphs 0343-0347, 0351 and 0357. The edge sampled pixels $Dist_edg$ (i.e. edge pixel positions) are multiplied by a coefficient k . All of the pixels resulting from the uniform sampling $Dist_ave$ are multiplied by a coefficient $(1-k)$. Therefore, different pixel positions are clearly weighted differently depending on whether they are edge pixels or not, and the weighting is done using an arrangement of weight coefficients $(k, 1-k)$. This weighting is based on a photographing condition as the respective coefficients are adjusted based on whether the input image is a scenery or portrait image (See SD190-SD194, figure 45, paragraphs 0346 and 0357.), a histogram generation means for generating a weighting histogram related to the characteristic amount based on the arrangement of the weight coefficients in correspondence with the pixel positions in the input image (See SD310, figure 48, paragraphs 0351 & 0359. A histogram is generated based on the selected weight coefficients $(k, 1-k)$, or based on an automatically calculated weight coefficient(i.e. one related to the characteristic amount). This histogram generation is

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detailed in figure 47.), and that the gradation conversion curve is calculated based on the histogram(A luminance conversion table(figure 16) for generating the gradation curve is generated according to the weighted histogram, paragraph 0359.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have the selection means taught by Fukushima et al. select an arrangement of weighting coefficients with which to create a histogram used in the generation of the gradation conversion curve as taught by Kuwata et al. for the benefit that optimum image processing can be performed by permitting flexible evaluation not limited to just one criterion, but rather tailored to the specific photographed image(Kuwata, paragraphs 0357 and 0361).

However, the prior art of record does not teach nor reasonably suggest that the selection means selects a weight pattern comprising a two-dimensionally-arrayed plurality of weight coefficients, or that the histogram is generated based on a state of two-dimensional arrangement of the plurality of weight coefficients contained in the selected weight pattern, as recited in claim 1.

Claims 2, 3 and 5-7 are allowed as depending from an allowed claim 1.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Hung (US 6,583,820) teaches of determining gradation characteristics based upon a photographing condition (i.e. based on a luminance distribution). See figures 3 and 4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALBERT H. CUTLER whose telephone number is (571)270-1460. The examiner can normally be reached on Mon-Thu (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AC

/Sinh N Tran/
Supervisory Patent Examiner, Art Unit 2622